Remarks

The Applicants acknowledge that the previous indication of allowability and the previous rejections have all been withdrawn. The Applicants acknowledge the newly cited rejections generally and will address them in groups below inasmuch as the essence of a number of the rejections are very similar, despite the fact that they rely on different publications and have slight variations as to certain of the dependent claims that are rejected.

The Applicants have amended independent Claims 17 and 20 to recite "a selected melt viscosity." The Tables in the Applicants' Specification include an entry in each case wherein there is a polyamide/PPS melt viscosity ratio with a wide variety of numbers for each of the Examples and many of the Comparative Examples. Thus, the Applicants' Specification supports the change. Entry into the Official File and consideration on the merits is respectfully requested.

The Applicants have added new Claims 41 and 42. They are directed to the numerical range of the selected relative viscosity. Support may be found on page 28 of the Applicants' Specification.

The Applicants acknowledge the various rejections under 35 U.S.C. §102 including JP '172, Akhtar, Selby, Takagi, Ono and Deguchi. The Applicants note with appreciation the Examiner's detailed comments concerning the hypothetical applicability of those publications to the specific claims mentioned in each rejection. The Applicants also note with appreciation the Examiner's comments concerning the melt viscosity ratio of the polymers as mentioned in the previous Amendment and the fact that such language was not previously in the claims and that, in any event, pointing out the melt viscosity ratio is not an indication of evidence on the record. The Applicants respectfully submit that the various publications relied upon to support the §102 rejection are inapplicable for the reasons set forth below.

As noted above, both of independent Claims 17 and 20 now recite that the polyamide resin and the polyphenylene sulfide resin have a selected melt viscosity ratio. It is one aspect of the Applicants' claimed subject matter that the melt viscosity ratio be controlled or selected. This, taken with, for example, the relative volumes of the polyamide resin and the polyphenylene sulfide resin seriously impact the morphology of the resulting thermoplastic resin's composition. This is not "arguments of counsel." This is fact, as already demonstrated on this record. In that regard, the Applicants invite the Examiner's attention in general to the Applicants' Tables. Starting with Table 1, the Applicants have arbitrarily selected Examples 1, 4 and 5 and Comparative Example 2 that have the same relative quantities of the polyamide and polyphenylene sulfide resin. In all three cases, the amount is 70 vol.%/30 vol.%. Thus, the Applicants point out a so-called "apples to apples" factual comparison.

It can be seen in each of Examples 1, 4 and 5 and Comparative Example 2 that the melt viscosity ratio is different. This is despite the fact that the relative volume ratio is the same in each case. The result is that, depending on the melt viscosity ratio, the morphology of the resin composition changes dramatically. On the low end of the melt viscosity ratio, as shown in Comparative Example 2, the ratio is 0.6. In that case, the continuous phase is the polyamide. Moving to Example 5, the melt viscosity ratio increases to 1.8 and the morphology has both of polyphenylene sulfide and the polyamide as a continuous phase. Then, as the melt viscosity ratio moves higher, as demonstrated by Examples 4 and 1, with melt viscosity ratios of 4.7 and 5.5, respectively, the morphology indicates that the polyphenylene sulfide is the continuous phase.

Moving to Table 2, substantially the same phenomenon can be seen by reference to Examples 7, 10 and 11 and Comparative Example 4. The low melt viscosity ratio compositions have the poly-

amide as the continuous phase while the relatively higher melt viscosity ratios result in compositions having the polyphenylene sulfide as the continuous phase.

This same phenomenon is manifested in Example 14 of Table 3 and Example 20 of Table 4. The Applicants respectfully submit that none of the publications utilized to support the §102 rejections discloses this fact. Thus, those skilled in the art have utterly no idea as to what the melt viscosity ratio of any of the compositions in those numerous publications happens to be.

It should be remembered that the relative viscosity ratio does not depend solely on the relative quantities of the polyamide resin and the polyphenylene sulfide resin, which is what the publications disclose. (In addition, selected ones of the publications disclose relative proportions of polyamide and polyphenylene sulfide based on weight, which is not what the Applicants claim. Also, a number of the publications are limited to ratios that are outside certain ones of the claimed ratios.) In any event, what is important in this instance is the combination of claimed features, one of which is the melt viscosity ratio. The Applicants have demonstrated in their Specification, as a con-sequence of real life testing actually performed by the Applicants and submitted under oath, that the melt viscosity ratio in fact has an important impact on the morphology of the composition. Inasmuch as all of JP '172, Akhtar, Selby, Takagi, Ono and Deguchi utterly fail to disclose this important aspect, they all are inapplicable to the specific claims identified in the various §102 rejections.

There are additional differences that are individually attributed to various of the references. Those are addressed in individual paragraphs below and highlight the already established differences as set forth above.

The rejection states that JP '172 discloses a blend comprising nylon 66 (40 – 95 wt%) and PPS. The rejection therefore concludes that the blend has to have the same properties as those of Applicants', including morphologies. However, JP '172 discloses at line 15 of left-under column to

line 3 of right-under column in page 3 as follows: "It is clear by data of a differencial thermal analysis and a scanning electron microscope that the molding of the present invention has a morphology in which super micro particles of polyphenylene sulfide disperse in nylon 66,...." That morphology is clearly different from the morphology of Claims 17 and 20.

The Applicants believe that the morphology of JP '172 is the same morphology as Comparative Examples 2 and 4 of the Applicants' Specification because the polyamide employed in JP '172 is a grade for injection molding. Therefore, the polyamide should have a similar relative viscosity of polyamide to those of polyamide in the Applicants' Comparative Examples 2 and 4.

The rejection states that the Applicants' allegation that the morphology depends on the melt viscosity ratio of the polymers is merely an opinion, not evidence. However, the Applicants' Specification discloses a correlation between the morphology and the melt viscosity ratio of the polymers. All of the melt viscosity ratios of the polymers in the Examples are more than 1, but less than 1 in the Comparative Examples.

Akhtar discloses that: "in the 50/50 blend, PPS is still the continuous phase, with N6 dispersed as particles in it. However, it seems that the N6 phase is perhaps on the verge of becoming a continuous phase" at lines 6 – 9, right-upper column, page 894. Therefore, Akhtar does not disclose, teach or suggest the subject matter of Claims 17 and 20. Also, the Applicants believe that the morphology of Akhtar is the same morphology as Comparative Examples 2 and 4 of the Applicants' Specification because Akhtar discloses the shear viscosity of polyamides as 82 – 295 in Akhtar's Table 10, page 691. Therefore, the polyamide should have a similar viscosity of polyamide as the polyamide in Comparative Examples 2 and 4 of the Applicants' Specification.

Selby discloses a composition comprising poly(arylene sulfide) and an amorphous polyamide. However, Selby also discloses in Claim 1, for example, that the amount of polymer is about

0.1 to about 100 parts by weight of an amorphous polyamide per 100 parts poly(arylene sulfide). That amount of polymer is clearly different from the Applicants' Claims 17 and 20.

Takagi discloses that different kinds of polymers (for example, nylon and PPS) are kneaded under reduced pressure. In the Takagi Examples, there are examples of nylon46/PPS = 50/50, 75/25, 95/5, but no disclosure as to morphology. Indeed, the object of Takagi is to produce a polymer alloy having a uniform phase by mixing, that is to disperse as small as possible PPS particles in the nylon matrix. However, the Applicants produce a polymer alloy having a phase of nylon particles in a PPS matrix (Claim 17) or laminar PPS in a nylon matrix (Claim 20). Therefore, the Applicants believe that it is impossible that the Takagi polymer alloy possesses the same morphology as those of the Applicants' Claims.

Ono relates to a resin composition having three polymer components except for the Comparative Examples. Therefore, the resin composition of Ono cannot have the morphologies of the Applicants' Claims. The Comparative Examples in Ono do not disclose the phase morphologies. However, the Applicants believe that the compositions of the Comparative Examples cannot form the morphologies of the Applicants' Claims 17 or 20 because the results of the straining test, bending test and impacting test in Ono are very poor.

The Examples of Deguchi disclose only that polyamide/PPS is 50/50. However, that is out of Applicants' Claim 17. Deguchi also discloses that "each polymer domains which has small particle size are dispersed finely in the resin composition." Therefore, the Applicants believe that the composition of the polyamide/PPS (50/50) in Deguchi forms a particle disperse phase, not a laminar disperse phase. Withdrawal of the rejections is accordingly respectfully requested.

The Applicants acknowledge the various §103 rejections over the hypothetical combinations of JP '090 with JP '172, Tateyama, Kashiwadate with Akhtar, Kazuhiko with Akhtar, Tateyama with

Akhtar, Tateyama with Selby, Kazuhiko with Takagi, Tateyama with Takagi, Kazuhiko with Ono, Tateyama with Ono, Kazuhiko with Deguchi, and Tateyama with Deguchi.

Again, the Applicants note with appreciation the Examiner's detailed comments concerning the hypothetical combination of the various secondary references with the various primary references. The Applicants respectfully submit that the various combinations fail to teach or suggest the subject matter of the claims now under the §103 rejection for the reasons set forth below.

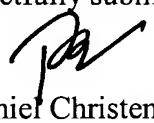
The Applicants have already established the inapplicability of JP '172, Akhtar, Selby and Deguchi, as noted above, with respect to independent Claims 17 and 20. The Applicants respectfully submit that all of Kazuhiko, Tateyama, Kashiwadate and Tateyama fail to provide teachings or suggestions that would cure those fundamental deficiencies. In other words, even if one of ordinary skill in the art were to make the hypothetical combination, the resulting combination would still utterly fail to teach or suggest the claimed percent by volume components of polyamide resin and polyphenylene sulfide resin with a selected melt viscosity ratio and having a morphology observed by electronic microscopy such that the polyamide resin forms a continuous phase and a polyphenylene sulfide resin forms a laminar dispersed phase. Thus, the Applicants respectfully submit that those rejections are inapplicable.

With respect to Takagi and Ono taken with Kazuhiko and Tateyama, the Applicants respectfully submit that both of Takagi and Ono are inapplicable for the same reasons set forth above with respect to the references discussed in connection with the §102 rejection. Also, as noted above, both of Kazuhiko and Tateyama fail to provide teachings or suggestions that would cure those deficiencies. As a consequence, the Applicants respectfully submit that, even if one of ordinary skill in the art were to make the hypothetical combinations, the resulting combinations would still fail to teach or suggest the claimed combinations of percent by volume of polyamide resin and poly-

phenylene sulfide resin with a selected melt viscosity ratio and having a morphology observed by electronic microscopy such that the polyphenylene sulfide resin forms a continuous phase and the polyamide resin forms a disperse phase. Withdrawal of those rejections is also respectfully requested.

In light of the foregoing, the Applicants respectfully submit that the entire Application is now in condition for allowance, which is respectfully requested.

Respectfully submitted,



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